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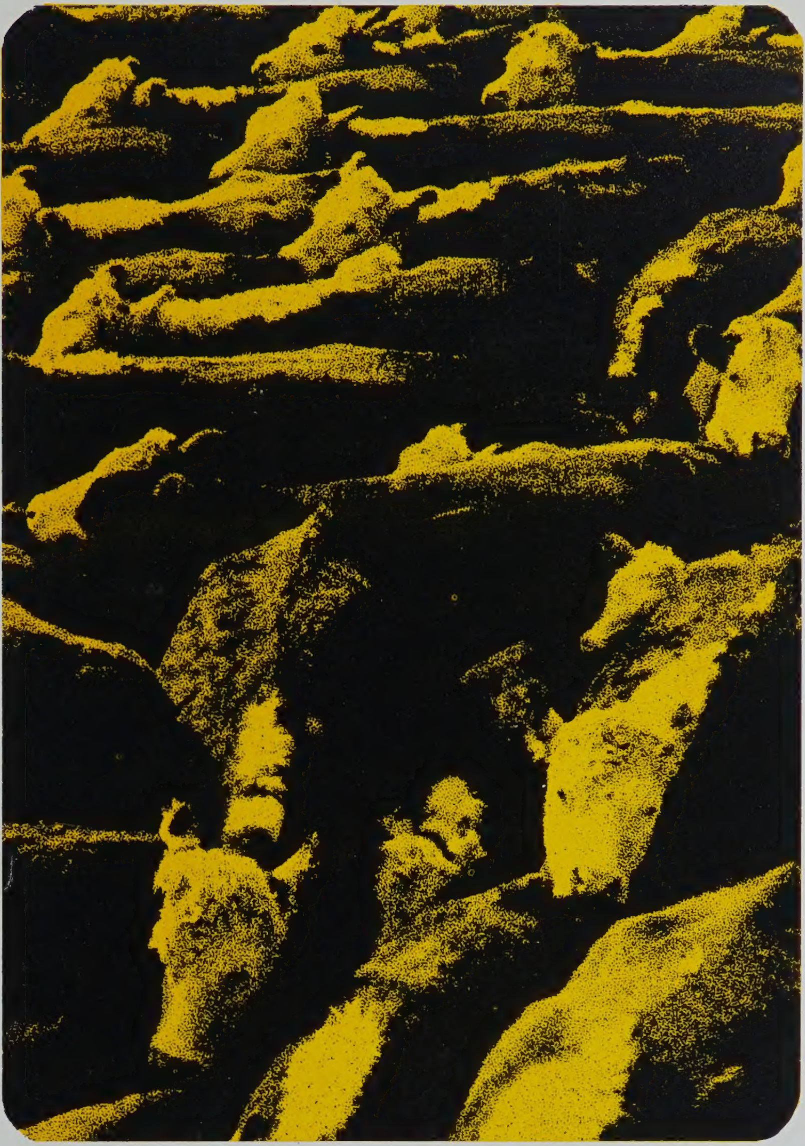

BEEF-FEEDER ENTERPRISE ANALYSIS 1969

Production
ECONOMICS DIVISION Branch
ALBERTA DEPARTMENT OF AGRICULTURE

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1969
ALBERTA
BEEF FEEDER ENTERPRISE ANALYSIS

by

R.G. WIENS

FARM MANAGEMENT BRANCH

PRODUCTION RESEARCH BRANCH

ECONOMICS DIVISION

Hon. H. A. Ruste
Minister

Dr. E. E. Ballantyne
Deputy Minister

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PREFACE

The importance of beef production to the Alberta and Canadian economy cannot be overlooked. In 1969, Alberta's beef cattle population was approximately one-third of the Canadian total. Sales of cattle and calves accounted for 38% of Alberta's farm cash receipts. This amounted to over $260 million in direct revenue to Alberta farmers.

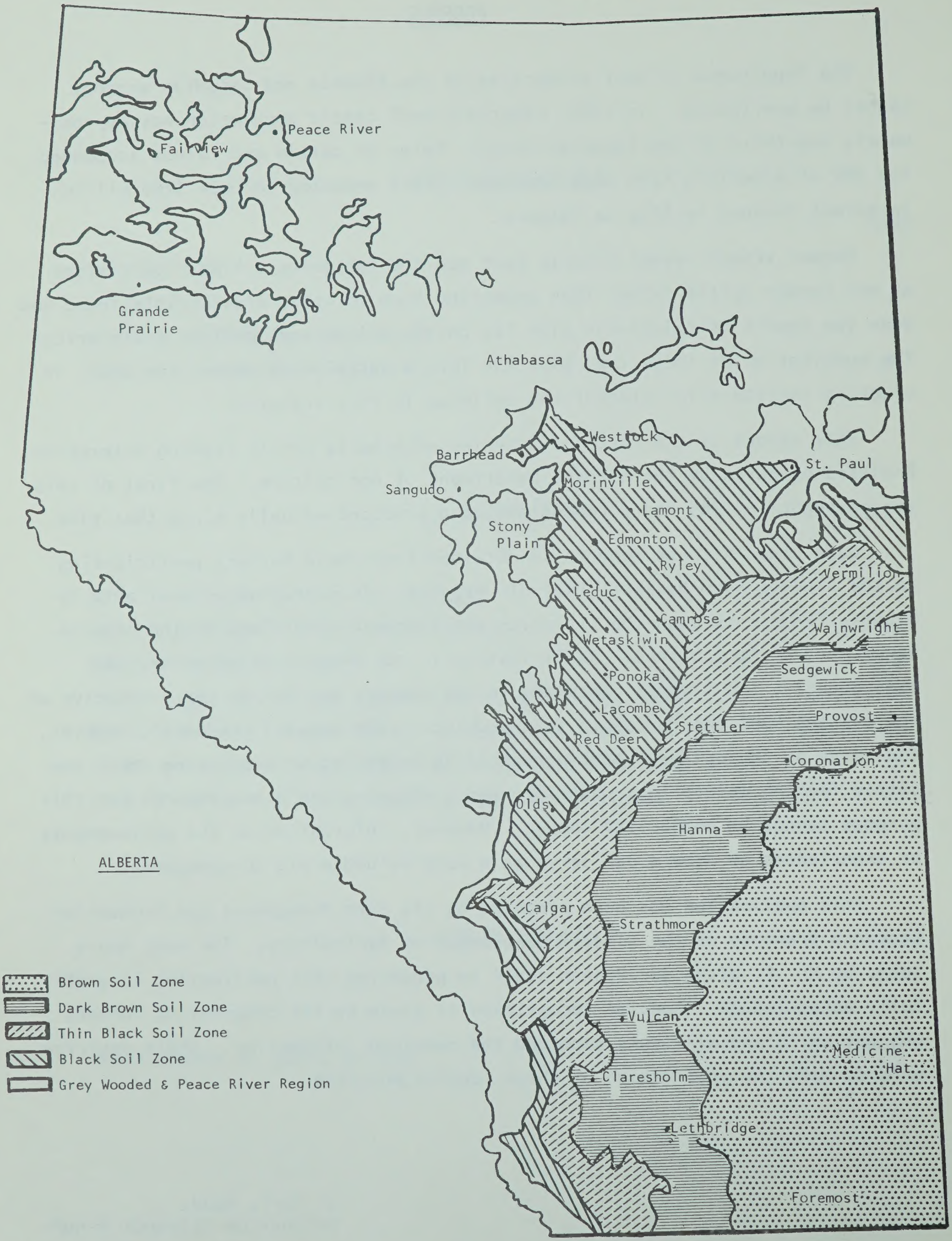
Recent trends reveal Alberta beef men are fattening a higher percentage of our feeder cattle rather than exporting them to other areas. This trend has been the result of relatively high fat cattle prices and low feed grain prices. The combination of these two, plus the future anticipated demand for beef, is creating considerable interest and optimism in this industry.

This report is the fifth of a series of Alberta Cattle Feeding Enterprise Analyses prepared by the Alberta Department of Agriculture. The first of this series began in 1965 and a report has been produced annually since that time.

Data used in these reports is obtained from those farmers participating in the Alberta Farm Business Analysis Program. This program is available to Alberta farmers through the Extension and Economics Divisions of the Alberta Department of Agriculture. Participation in the program is voluntary and consequently, the figures contained in the reports may not be representative of the average beef enterprise in this province. The results presented, however, can serve as 'guidelines' or 'benchmarks' in assessing or evaluating one's own cattle feeding enterprise. The importance of using one's own records for this purpose cannot be emphasized enough. However, information on the achievements or experiences of others can serve as a very valuable aid to management.

This publication has been prepared by the Farm Management and Production Research Branches of the Alberta Department of Agriculture. The many hours spent by Mr. R. Wiens and Branch staff in preparing this publication is gratefully acknowledged. Special recognition is given to the cooperating farmers who patiently and willingly recorded the required information. Their untiring efforts make the publication of these reports possible.

J. Gorr, Head,
Production Research Branch.


ALBERTA
Peace River
Fairview
Grande Prairie
Athabasca
Westlock
Barrhead
St. Paul
Sangudo
Morinville
Lamont
Stony Plain
Edmonton
Ryley
Vermilion
Leduc
Camrose
Wainwright
Wetaskiwin
Sedgewick
Ponoka
Lacombe
Provost
Stettler
Red Deer
Coronation
Olds
Hanna
Calgary
Strathmore
Vulcan
Medicine Hat
Claresholm
Lethbridge
Foremost
Brown Soil Zone
Dark Brown Soil Zone
Thin Black Soil Zone
Black Soil Zone
Grey Wooded & Peace River Region

INTRODUCTION

The 1969 cattle feeding enterprise analysis is the continuation of a series of annual reports on the costs and returns of beef feeder enterprises in Alberta. Although the format of the reports may vary somewhat from year to year, they are designed to give information to interested parties on the state of that specific enterprise during the past year.

The data is compiled from the reports of those farmers enrolled in the Alberta Farm Business Analysis Program who have a beef feeder enterprise on their farms. In 1969, approximately 60 of those on the Farm Business Analysis Program had beef feeder enterprises. This information was used in compiling the tables in this report.

The different classifications of farms were those in (1) the dark brown soil zone, (2) the black soil zone, (3) the thin black soil zone, and (4) the Peace River region. None of the farms in the brown soil zone which submitted their farm data for analysis had beef feeder enterprises. It was felt that this breakdown would give a reasonable basis upon which farmers could compare their results with other farmers in that zone.

Beef feeder enterprises constitute an important part of the income of Alberta farmers. For those engaged in feeding cattle or interested in that enterprise, this analysis should provide some guidelines for management.

Looking at the tables calculated from the figures used, some general comments are in order regarding the significance of the results and their limitations.

First of all, because of the classification of the farms, and the distributions of their size in the records submitted, some averages are computed from a small number of farms. These figures must be interpreted carefully, for they may not be truly representative of the actual situation existing for that classification.

Secondly, we notice that there is a substantial variation in the gross returns reported on a per hundredweight basis. These variations account for a considerable amount of the difference in net returns between the different groups. Thus, when using these figures to evaluate your own feeder operation, you may want to make some adjustments in order to make the comparison as meaningful as possible.

The figures in the tables are designed so that you may compare the costs and returns from your feeder enterprise with those of similar size, in a similar soil zone, or both. They should help you to determine the strong and weak points in your operation and on the basis of a close look at the results compiled here, you should then employ your managerial skills to improve your income from your feeder operation.

Table I has been compiled in order to present a Province-wide look at beef feeder operations on analysis in 1969, compared with results in 1968.

We see that the average size of beef feeder enterprises analysed was down from the previous year. This may have been caused by the poor grain situation, resulting in more farmers bidding for the feeders available in order to diversify into a feeding operation. In spite of this, net returns per hundredweight were up $0.97. This was attributable to a combination of higher returns to the farmers and lower feed costs.

A large reduction in feed costs occurred in 1969, due to a large reduction in the dollar input of grain. A considerable amount of cheap feed grain was available in 1969, and the feeder operators appear to have taken full advantage of this to lower their feed costs.

The 1969 feeder operations incurred much higher fixed costs per hundredweight of production. This, no doubt, was partly due to the reduced size of operations in situations where investment had been made in extensive facilities and were now under-utilized.

The 1969 beef feeder enterprises had a net return to labor and management of $2.51 per hundredweight of beef produced. The average enterprise produced 435 hundredweight which resulted in an average net return to labor and management of $1,091.85. However, the average net over variable expenses excluding labor was $3,427.80. A farmer who had no hired help could, in the short run, use all of this sum to pay off the investment in his feeder enterprise, or to improve his standard of living.

Thus, we see that a beef feeder operation can contribute significantly to the income of your farm if good management and resource utilization is practised.

TABLE 1 BEEF FEEDER ENTERPRISE

(Costs & Returns Per 100 Pounds of Live Animal Produced)

	1969	1968
VALUE OF PRODUCTION	25.02	24.83
FEED COSTS:		
Grain	8.54	12.35
Supp. & Comp. Feed	1.75	1.88
Roughage	1.99	2.44
Silage	0.82	-
Straw	0.30	0.37
Pasture	0.52	0.35
Minerals	0.36	-
TOTAL FEED	14.28	17.39
Straw (Bedding)	0.31	2.47
Vet., Med.	0.26	
Other Direct Variable	0.47	
Joint Variable	1.82	
TOTAL VAR. (EXC. LABOR)	17.14	19.86
Labor	2.72	1.40
TOTAL VAR. (INC. LABOR)	19.86	21.26
TOTAL FIXED COSTS	5.40	3.43
TOTAL PRODUCTION COSTS	25.26	24.69
NET OVER VAR. (EXC. LABOR)	7.88	4.97
NET TO LABOR, MGMT. & INVEST.	6.77	3.77
NET TO LABOR & MANAGEMENT	2.51	1.54
AVERAGE CWT. PRODUCED / FARM	435	669
NUMBER OF FARMS	58	50

Value of Production is the livestock sales plus products used on the farm plus inventory change in livestock less livestock transferred in less livestock purchases. For the individual operation (and for this analysis) this figure is divided by the total hundredweight of beef produced to give a comparable per hundredweight figure.

Variable Costs are those costs which vary directly with the amount of production. Feed costs are an example of this.

Fixed Costs are those costs which are incurred regardless of whether output is increased or decreased in a given year, e.g. depreciation on existing buildings.

Net Over Variable Costs (excluding labor) is computed by subtracting all the variable costs except labor from the value of production.

Net to Labor, Management & Investment is the net over variable costs (excluding labor) less depreciation and insurance costs.

Net to Labor & Management is the residual after subtracting all costs except labor. On most farms where the beef feeder enterprise is not the major one, this figure is the return to the operator for his time spent working on the enterprise. If he needs a hired man for the operation, this cost must be taken out of the net to labor and management to figure out the operator's labor return.

Depreciation is the loss in value of a fixed asset during a year due to wear and obsolescence.

Investment Cost is the interest charged against capital invested in the enterprise. In the 1969 farm business records, 6% was charged on buildings and site, 7% on machinery, and 8% on livestock quota and supplies.

Total Production Cost includes all fixed, variable and labor costs.

In cattle feeding enterprises, value of production depends on:

(a) the value of the animals sold,

(b) the value of animals purchased,

(c) the value of animals on inventory at the beginning of the year,

(d) the value of animals on inventory at the end of the year, and

(e) the value of animals lost during the feeding period.

Following is an example of the calculation of the value of production of a feeder enterprise.

Assume that a farmer has forty steers on hand at the beginning of the year at an average weight of 660 pounds and valued at $26.80 per hundredweight. During the year he loses one animal but sells the other thirty-nine at a 1,020 pound average for $26.60 per hundredweight. During the year he buys sixty-seven feeder steers at 590 pounds at $26.75 per hundredweight. He again loses one of these animals but the other sixty-six are on hand at the end of the year averaging 670 pounds and valued at $27.00 per hundredweight. We then calculate his value of production as follows:

	Number	Weight	Value
Inventory at end of year	66	44,220	$11,939.40
+ Livestock sold	39	39,780	$10,581.48
Death Losses	2		
- Livestock purchased	67	39,530	$10,574.28
- Inventory at beginning year	40	26,400	$ 7,075.20
= Value of Production		18,070 lbs.	$ 4,871.40

18,070 pounds valued at $4,871.40 represents a value of production per hundredweight produced of $26.96.

Table II shows the costs and returns per hundredweight of beef produced for various enterprise size categories. Basing costs and returns on a common unit such as hundredweight of production enables one to see if there are any economies (reduction in costs) associated with the larger beef operations.

From the figures given in this table it is evident that farms with more than 250 hundredweight of beef production have costs and returns for each hundredweight of production which are relatively similar. Farms producing less than 250 hundredweight of live beef had higher costs per hundredweight of production than the larger size groups. This would indicate that in 1969, certain economies of size did exist on the study farms up to 250 hundredweight of production. Beyond this size, costs per hundredweight were very similar. Consequently, no additional economies could be associated with enterprise size.

The reader should be careful not to associate costs and returns per hundredweight of production with total costs and returns for the enterprise as this can cause serious misinterpretation of the figures given. For example, beef feeders in the 250-500 hundredweight size category had roughly the same costs and returns per hundredweight of production as those in the 1,000+ size category but total costs and returns in this larger size group were approximately 4.3 times higher. This is due to the greater number of hundredweights produced (1,395 hundredweight as compared to 325 hundredweight).

BEEF FEEDER ENTERPRISE
RELATIONSHIP OF COSTS PER 100 POUNDS OF GAIN TO SIZE OF ENTERPRISE

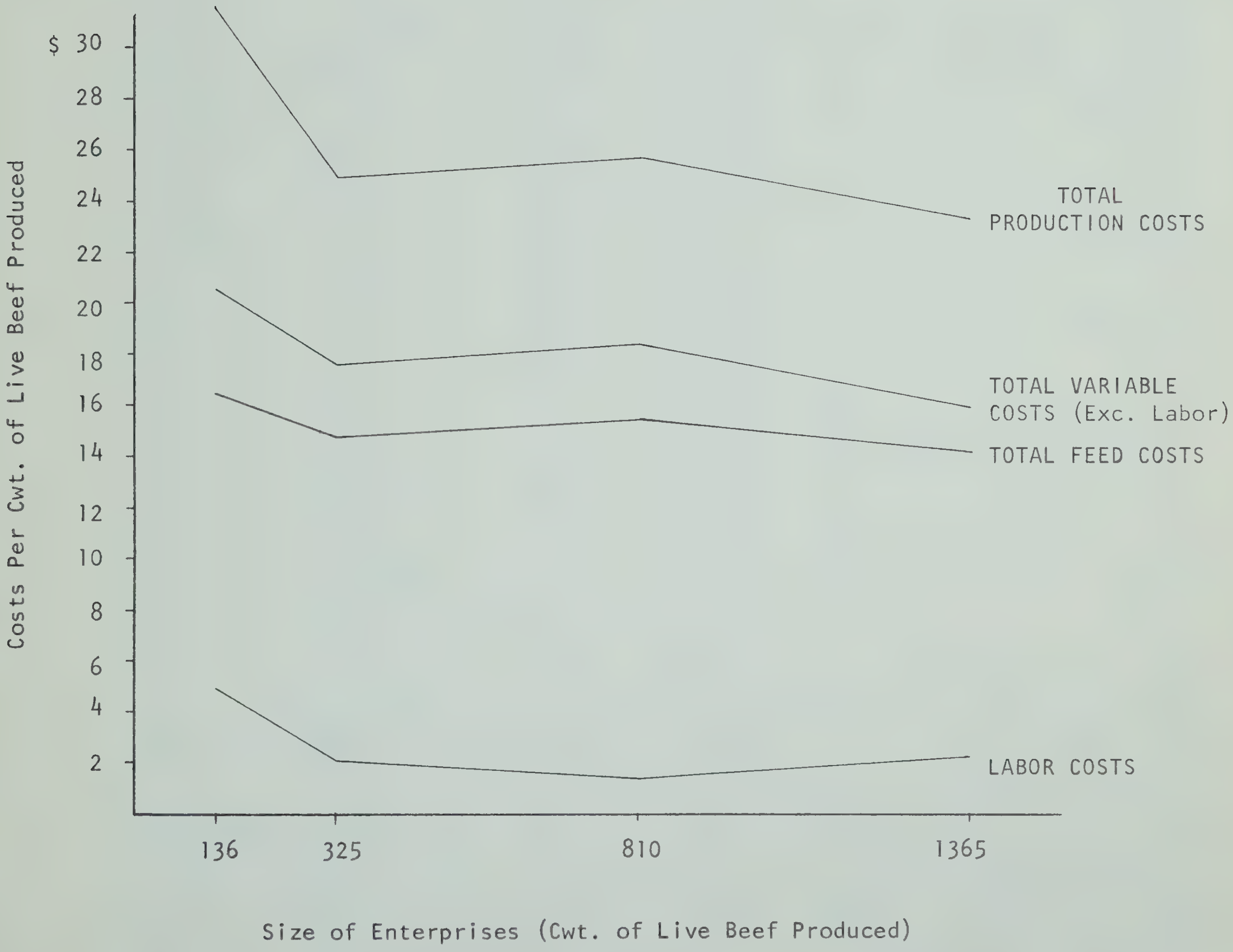


TABLE II

BEEF FEEDER - ALL ZONES

(Costs & Returns Per 100 Pounds of Live Animal Produced)

	0-250 Cwt.	250-500 Cwt.	500-1000 Cwt.	1000+ Cwt.
VALUE OF PRODUCTION	27.74	25.79	25.36	24.65
FEED COSTS:				
Grain	10.66	8.60	8.61	7.88
Supp. & Comp. Feed	0.84	1.73	1.36	2.96
Roughage	3.09	2.32	1.91	0.89
Silage	0.21	0.10	1.41	1.12
Straw	0.54	0.32	0.13	0.31
Pasture	0.43	1.18	0.32	0.64
Minerals	0.25	0.27	1.55	0.20
TOTAL FEED	16.02	14.52	15.50	13.99
Straw	0.34	0.41	0.13	0.29
Vet., Med.	0.34	0.14	0.27	0.30
Other Direct Variable	0.59	0.26	0.43	0.64
Joint Variable	2.83	1.88	1.75	1.24
TOTAL VAR. (EXC. LABOR)	20.12	17.21	18.08	16.46
Labor	4.26	2.09	1.86	1.96
TOTAL VAR. (INC. LABOR)	24.38	19.30	19.94	18.42
TOTAL FIXED COSTS	6.28	5.19	5.88	4.94
TOTAL PRODUCTION COSTS	30.66	24.49	25.82	23.36
NET OVER VAR. (EXC. LABOR)	7.62	8.58	7.28	8.19
NET TO LABOR, MGMT. & INVEST.	6.20	7.37	6.29	7.34
NET TO LABOR & MANAGEMENT	1.35	3.38	1.40	3.24
AVERAGE CWT. PRODUCED / FARM	137	325	764	1,395
NUMBER OF FARMS	34	9	4	9

BEEF FEEDER ENTERPRISE

(Costs & Returns Per 100 Pounds of Live Animal Produced)

	DARK BROWN	BLACK	THIN BLACK	PEACE RIVER
VALUE OF PRODUCTION	27.79	26.17	23.72	27.45
FEED COSTS:				
Grain	10.24	9.22	7.61	8.42
Supp. & Comp. Feed	1.75	2.51	2.40	0.50
Roughage	2.34	1.65	1.02	3.45
Silage	1.62	1.23	0.36	0.32
Straw	0.23	0.39	0.30	0.33
Pasture	0.84	0.83	0.50	0.13
Minerals	0.34	0.70	0.15	0.27
TOTAL FEED	17.36	16.53	12.34	13.42
Straw	0.24	0.33	0.24	0.43
Vet., Med.	0.49	0.20	0.33	0.17
Other Direct Variable	0.69	0.47	0.65	0.34
Joint Variable	2.91	1.63	1.32	2.10
TOTAL VAR. (EXC. LABOR)	21.69	19.16	14.88	16.46
Labor	3.29	2.16	2.10	3.76
TOTAL VAR. (INC. LABOR)	24.98	21.32	16.98	20.22
TOTAL FIXED COSTS	7.18	4.94	4.74	5.61
TOTAL PRODUCTION COSTS	32.16	26.26	21.72	25.83
NET OVER VAR. (EXC. LABOR)	6.10	7.01	8.84	10.98
NET TO LABOR, MGMT. & INVEST.	4.41	6.12	7.96	9.66
NET TO LABOR & MANAGEMENT	-1.08	2.06	3.66	5.47
AVERAGE CWT. PRODUCED / FARM	255	526	715	143
NUMBER OF FARMS	11	17	13	15

BEEF FEEDER - DARK BROWN SOIL ZONE

(Costs & Returns Per 100 Pounds of Live Animal Produced)

	0-250 Cwt.	250-500 Cwt.	500-1000 Cwt.
VALUE OF PRODUCTION	33.71	20.51	24.90
FEED COSTS:			
Grain	14.10	9.69	7.34
Supp. & Comp. Feed	1.15	3.40	1.82
Roughage	2.64	1.50	2.31
Silage	0.32		3.03
Straw	0.56		0.03
Pasture	0.52	1.49	0.93
Minerals	0.43	0.38	0.27
TOTAL FEED	19.72	16.46	15.73
Straw	0.32	0.30	0.16
Vet., Med.	0.50	0.11	0.56
Other Direct Variable	1.18	0.89	0.26
Joint Variable	3.67	2.74	2.36
TOTAL VAR. (EXC. LABOR)	25.39	20.50	19.07
Labor	4.62	3.42	2.22
TOTAL VAR. (INC. LABOR)	30.01	23.92	21.29
TOTAL FIXED COSTS	6.45	5.30	8.22
TOTAL PRODUCTION COSTS	36.46	29.22	29.51
NET OVER VAR. (EXC. LABOR)	8.32	0.01	5.83
NET TO LABOR, MGMT. & INVEST.	6.73	-2.36	4.21
NET TO LABOR & MANAGEMENT	1.87	-5.28	-2.38

BEEF FEEDER - BLACK SOIL ZONE

(Costs & Returns Per 100 Pounds of Live Animal Produced)

	0-250 Cwt.	250-500 Cwt.	500-1000 Cwt.	1000+ Cwt.
VALUE OF PRODUCTION	20.49	27.97	25.73	26.94
FEED COSTS:				
Grain	9.30	9.27	9.64	9.01
Supp. & Comp. Feed	0.73	1.79	1.20	3.69
Roughage	3.08	2.98	1.57	0.82
Silage			0.07	2.43
Straw	0.91	0.48	0.21	0.30
Pasture	1.12	1.68		0.75
Minerals	0.05	0.30	2.61	0.30
TOTAL FEED	15.19	16.50	15.30	17.31
Straw	0.30	0.40	0.10	0.40
Vet., Med.	0.25	0.11	0.03	0.28
Other Direct Variable	0.39	0.20	0.57	0.55
Joint Variable	2.61	1.74	1.25	1.50
TOTAL VAR. (EXC. LABOR)	18.74	18.95	17.25	20.04
Labor	3.71	1.46	1.55	2.30
TOTAL VAR. (INC. LABOR)	22.45	20.41	18.80	22.35
TOTAL FIXED COSTS	6.95	5.22	3.95	4.76
TOTAL PRODUCTION COSTS	29.40	25.63	22.75	27.11
NET OVER VAR. (EXC. LABOR)	1.75	9.02	8.48	6.90
NET TO LABOR, MGMT. & INVEST.	0.31	8.14	8.01	5.98
NET TO LABOR & MANAGEMENT	-5.08	3.80	4.53	2.13

BEEF FEEDER - THIN BLACK SOIL ZONE

(Costs & Returns Per 100 Pounds of Live Animal Produced)

	0-250 Cwt.	250-500 Cwt.	1000+ Cwt.
VALUE OF PRODUCTION	27.13	24.77	23.38
FEED COSTS:			
Grain	12.25	7.45	7.25
Supp. & Comp. Feed	1.48	1.19	2.55
Roughage	2.13	0.93	0.93
Silage	0.12	0.23	0.39
Straw	0.39	0.16	0.31
Pasture			0.58
Minerals	0.21	0.12	0.15
TOTAL FEED	16.58	10.08	12.16
Straw	0.24	0.41	0.23
Vet., Med.	0.64	0.25	0.31
Other Direct Variable	0.53	0.19	0.69
Joint Variable	3.63	2.00	1.09
TOTAL VAR. (EXC. LABOR)	21.62	12.93	14.48
Labor	5.43	3.19	1.75
TOTAL VAR. (INC. LABOR)	27.05	16.12	16.23
TOTAL FIXED COSTS	7.09	4.81	5.05
TOTAL PRODUCTION COSTS	34.14	20.93	21.28
NET OVER VAR. (EXC. LABOR)	5.51	11.84	8.90
NET TO LABOR, MGMT. & INVEST.	3.87	10.66	8.09
NET TO LABOR & MANAGEMENT	-1.57	7.02	3.85

BEEF FEEDER - PEACE RIVER REGION

(Costs & Returns Per 100 Pounds of Live Animal Produced)

	0-250 Cwt.	250-500 Cwt.
VALUE OF PRODUCTION	28.51	20.21
FEED COSTS:		
Grain	8.88	5.33
Supp. & Comp. Feed	0.50	0.50
Roughage	3.69	1.80
Silage	0.16	0.57
Straw	0.38	
Pasture	0.15	
Minerals	0.27	0.26
TOTAL FEED	14.03	8.46
Straw	0.41	0.58
Vet., Med.	0.18	0.12
Other Direct Variable	0.39	
Joint Variable	2.17	1.57
TOTAL VAR. (EXC. LABOR)	17.18	10.73
Labor	3.95	2.33
TOTAL VAR. (INC. LABOR)	21.13	13.06
TOTAL FIXED COSTS	5.74	5.67
TOTAL PRODUCTION COSTS	26.87	18.73
NET OVER VAR. (EXC. LABOR)	11.33	9.48
NET TO LABOR, MGMT. & INVEST.	10.09	7.55
NET TO LABOR & MANAGEMENT	5.83	3.81

Regression analysis of the data used indicates that about 83% of the variance in returns to labor, management and investment are related to certain factors in each operation. By far the most important of these is the size of the enterprise as measured by the total number of hundredweight produced--it alone accounts for 66% of variability in net returns. Several other factors of relatively minor importance explain the other 17% of the variation.

Following is an outline of the variables used and the results of the analysis:

Regression Formula for Total Returns to Labor, Management & Investment

	R^2	Effect
-\$3194.48		
$+ 12.55 (X_1)$	66.54	+
$+ 126.47 (X_2)$	7.22	+
$- 2.07 (X_3)$	6.63	-
$- 67.24 (X_4)$	2.57	-
	82.96	

where X_1 = Total number of hundredweight of live gain produced
X_2 = Value of production per cwt. produced
X_3 = Total value of supplement fed to herd
X_4 = Pounds of feed input per pound of gain

The R^2 column on the right tells us the amount of the variability associated with each variable. As mentioned above, the most important factor in 1969 was the size of the operation, accounting for over 66% of the difference in net income on different farms. Next in importance was the value of production per hundredweight produced. This is dependent on your managerial input into the operation--the death loss in your herd and your buying and selling prices, for example.

From the EFFECT column we can see that both of the above factors tend to increase net income as they themselves increase. The next variable, total value of supplement fed to the herd, comes in as a negative factor in the farms analysed.

This is not to say that feeding supplement to feeder cattle does not pay, but rather that the farms analysed fed too much supplement for the benefit they were getting from it. There is no doubt at all that the feeding of supplement is beneficial to gains and health in feeders. However, there is a point where more supplement than necessary may be fed, and this reduces net income rather than raising it. You should consult your local District Agriculturist or Regional Nutritionist for advice on how much supplement to feed.

The fourth factor that shows up is the feed conversion in the operations. It also comes in as a negative factor, indicating that the more weight gain you can get from every pound of feed, the more likely you are to raise your income from your feeder operation.

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